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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,030	10/21/2003	Se-Jin Chung	053785-5028-01	4663

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EXAMINER
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HITESHEW, FELISA CARLA

ART UNIT	PAPER NUMBER
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1722

DATE MAILED: 05/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/689,030

Applicant(s)

CHUNG, SE-JIN

Examiner

Felisa C. Hiteshew

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 14-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☒ Certified copies of the priority documents have been received in Application No. 09/965,844.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

***Priority***

1. Applicant is reminded that in order for a patent issuing on the instant application to obtain the benefit of priority based on priority papers filed in parent Application No. 09/965,844 of 10/01/2001 under 35 U.S.C. 119(a)-(d) or (f), a claim for such foreign priority must be timely made in this application. To satisfy the requirement of 37 CFR 1.55(a)(2) for a certified copy of the foreign application, applicant may simply identify the application containing the certified copy.

***Information Disclosure Statement***

The PTOL 1449 has been received, reviewed and considered.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka.

Tanaka teaches a laser irradiation apparatus, method, beam homogenizer and method of manufacturing a semiconductor device, comprising a laser irradiation apparatus for carrying out irradiation while scanning a linear excimer laser beam having a beam width comprising a first beam in a beam with direction. This is characterized in that the laser beam on an irradiation surface has a first energy density in a first beam width and a second energy density in a second beam width, and the second energy

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density is higher than the first energy density (see column 3, lines 31-47). The energy of the laser beam is necessary for performing a uniform laser annealing of amorphous silicon film with various thicknesses (see column 9, lines 34-37). Tanaka also teaches a beam attenuating filter for a laser was disposed immediately in front of a non-single crystal semiconductor film, so that an energy distribution was changed. In FIGS. 2A and 2B, the filter was disposed immediately in front of (within 1mm) the non-single crystal semiconductor film (see column 6, lines 23-36).

The difference being that Tanaka does not exactly teach a laser system, wherein the filter includes at least two beam stops wherein a material is selected from a group comprising nickel (Ni) and molybdenum (Mo) or wherein the first energy density melts the amorphous silicon layer to a first depth from a surface of the amorphous silicon layer being equal to a first thickness of the amorphous silicon layer and the second energy density melts the amorphous silicon layer to a second depth from the surface of the amorphous silicon layer that is less than the first depth. However, in the absence of unobvious results, it would have been obvious to one of ordinary skill in the art to modify and optimize the apparatus limitation, as taught by Tanaka, in order to ensure proper orientation. Since the second beam width and the second energy density is higher than the first energy density, it would also be obvious to one of ordinary skill art to modify the process parameters to have the first thickness of the amorphous silicon layer being less than the second depth from the surface of the amorphous silicon layer. The motivation being that an apparatus can be produced for carrying out a laser annealing with

sufficient uniformity and high productivity in a wide thickness range of a non-single or amorphous crystal semiconductor film.

A reference is good not only for what it teaches by direct anticipation but also for what one of ordinary skill might reasonably infer from the teachings. In re Opprect 12 USPQ 2d 1235, 1236 (CAFC 1989); In re Bode 193 USPQ 12; In re Lamberti 192 USPQ 278; In re Bozek 163 USPQ 545, 549 (CCPA 1969); In re Van Mater 144 USPQ 421; In re Jacoby 135 USPQ 317; In re LeGrice 133 USPQ 365; In re Preda 159 USPQ 342 (CCPA 1968).

It is sufficient that the reference(s) clearly suggest doing what the applicant(s) have done. In re Gershon 152 USPQ 602.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Felisa Hiteshew whose telephone number is (571) 272-1463. The examiner can normally be reached on Mondays through Thursdays from 4:30 AM to 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benjamin Utech, can be reached on (571) 272-1137. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-1463.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through

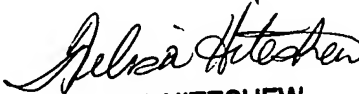
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<http://pair-direct.uspto.gov>. Should you have questions on access to the Private

PAIR system, contact the Electronic Business Center (EBC) at 866- 217-9197

(toll-free).

  
**FELISA HITESHEW**  
**PRIMARY EXAMINER**  
*AU 1722*